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AUTHOR Uhrbach, Amy J.
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ABSTRACT

An analysis of vowel distribution patterns in Rawas, an Austronesian language spoken in Sumatra, is presented. The language has six vowels, each with long and short variants in complementary distribution, and five diphthongs that occur generally in open syllables. It is proposed, based on this analysis, that each Rawas syllable is precisely two moras long, and that vowel distribution derives from this condition. The condition can be fulfilled in three ways: by a lexical closed syllable, by a lexical diphthong, and by a syllable whose melodic content is consonant-vowel which surfaces with a single long vowel. (MSE)

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Amy J. Uhrbach
University of Texas - Austin
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Rawas Vowel Distribution

Rawas is an Austronesian language spoken in Sumatra, Indonesia.

Vowel length in Rawas[1] is predictable. Short vowels occur in closed syllables, while long vowels and diphthongs only occur in open syllables. In this paper we propose that this distribution of vowels is the result of a condition on syllable structure: All syllables must be exactly two moras in weight.

The vowel system of Rawas is as follows:

1.
i		u
E	ə	ɔ
	a	

There are long and short phonetic variants of each vowel, which are in complementary distribution. Long vowels[2] occur in open syllables, while short vowels are always in closed syllables. All phonemic vowels enjoy full distribution.

There are five diphthongs in Rawas, as seen below.

2. iə ui, uə
ai, au

Diphthongs occur in open syllables.[3]

There are three types of syllables in Rawas. Closed syllables, or syllables of the maximal form CCVC are shown in 3.

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[1] Rawas is an Austronesian language spoken in Sumatra, Indonesia.

[2] Vowel length is marked with a colon for ease of exposition.

[3] With the exception of the sequences iə? and uə?. The appearance of these sequences is due to the unusual behavior of both schwa and glottal stop. This is tangential to the current argument, and will not be discussed here.

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3.

albam	'wow'
antan	'rice stamper'
kəndal	'thick'
ənju:a:	'give'
ilmu:	'science'
ba?	'father'
da?	'no, not'
ənda?	'will, intend'
tu:luŋ	'help'
o:nel-o:nel	'earring'
ka:rut	'string'
di:kit	'small (amount)'

4 provides examples of syllables with long vowels.

4.

a:ja:	'water'
o:la:	'manner, way, trick'
tə:gu:	'firm, secure'
ci:um	'kiss'
a:pi:	'fire'
e:lə:	'excuse'

In 5 we see syllables with diphthongs.

5.

a:rai	'day'
lə:mai	'too many'
aidil	'Aidil (name)'
li:mau	'orange'
i:mau	'tiger'
sauda:	'Sauda (name)'
ke:lui	'hemp fiber'
ui	'yes'
ma:siə	'still, yet'
janiə	'clear, pure'
ba:suə	'wash'
ru:buə	'break into'

Thus syllables ostensibly conform to the template (C(C))VX, where X may be a consonant or a vowel. If the X is a vowel, it may or may not be identical to the previous vowel. Nonidentity of vowels produces a diphthong, while identity of vowels is actually a single long vowel. Below we see near-minimal pairs of short and long vowels.[4]

6.

Closed Syllables		Open Syllables	
te?	'bet, wager'	te:	'tea'
be:nop		be:no:	'true'
a:yam	'chicken'	a:ya:	'water'
le:mak	'delicious'	le:ma:	'weak'

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[4] No gloss was given for the form be:nop.

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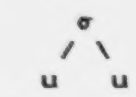
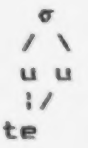
We argue that the syllable template is actually defined prosodically as in 7, rather than in terms of skeletal segments. u is one mora (Hyman, 1985; McCarthy and Prince, 1986), where a mora is any element of the rime, whether vowel or consonant.

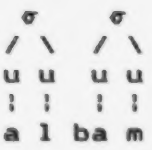
7.

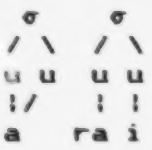


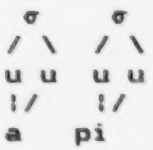
That is, every syllable is exactly two moras. This condition may be fulfilled in three ways: one by a lexical closed syllable; two by a lexical diphthong; three is the case of a syllable whose melodic content is consonant-vowel, which surfaces with a single long vowel. Thus length in open syllables is derived either by means of spreading the vowel features to the second rime slot, or by means of a lexically present association of one melody unit to two skeletal slots. Sample representations and derivations are given below.

8.









Note that only the syllable nucleus must be a vowel. In addition, the nucleus is always the most sonorous element in the syllable. On diphthongs, the syllable peak is always on the first element.

Note too that Rawas allows only bimoraic syllables. This is unique among Indonesian languages; in fact, many exhibit the reverse, permitting only light monomoraic syllables. A constrained prosodic theory predicts that precisely these two types of languages will occur. A segmental theory yields no such prediction, and presents no principled means by which to equate the three types of heavy syllables.

This analysis argues that Rawas syllable structure is present lexically. There are two types of independant evidence which support this conclusion. First, there are affixes which are sensitive to the syllable structure of roots. For example,

the nasal archephoneme prefix assimilates in place to a following consonant in a polysyllabic root; that consonant then deletes. Examples are seen in 9.

9.

pu:ta:	'turn'	mu:ta:	'to turn'
de:ŋa	'hear'	ne:ŋa	'to hear'
gə:buk	'hit'	ŋə:buk	'to hit'
sa:kut	'joined, related'	ŋa:kut	'to relate to'

However, the prefix becomes ŋə: before monosyllabic roots, with no concommitant deletion, as shown in 10.

10.

cet	'print (root)'	ŋə:cet	'to print'
te?	'bet, wager'	ŋə:te?	'to bet'
mi:	'noodles'	ŋə:mi:	'to eat noodles'
te:	'tea'	ŋə:te:	'to drink tea'

Thus syllable structure must be present prior to affixation of the nasal prefix.

More crucially, there is an underlying distinction between tautosyllabic and heterosyllabic vowel-vowel sequences, both where the vowels are identical and where they are different. Corresponding to and in contrast with the long vowels in 4 and the diphthongs in 5 above, below we see heterosyllabic sequences of different vowels and of identical vowels in 11a and 11b respectively.[■]

11a.	bu:-i:	'foam'
	u:-it	'lift, dig out'
	ma:-in	'play'
	a:-ip	'disgrace, scandal'
	a:-us	'thirsty'
	a:-uə	'bamboo pole'
	ta:-u:	'know'
b.	sa:-at	'moment'
	jə:-ma:-a:	'parish'
	bəi-i:-ti:-ar	'try, make an effort'
	sa:-pi:-i:	'Syafei (name)'

We note briefly here that an alternative theory of underlying length specification is unsatisfactory. In such a theory we lose the generalizations of surface length total predictabili-

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■ Note that the examples in 10a represent only the vowel-vowel sequences which are comprised of the same vowels that we find in diphthongs; all possible vowel combinations exist heterosyllabically.

ty, and of such predictability as based on syllable structure. Furthermore, we subject ourselves to circularity of the argument. In words with no vowel-vowel sequences, length is still predictable. In words with such sequences, we can derive the length of any one vowel in a sequence, so long as we specify the length of the other vowel(s) lexically. Note that in Rawas, a surface complementary distribution does not reflect such a neat underlying system.

Thus we demonstrate that vowel length in Rawas is predictable. We propose that the distribution of vowels in Rawas derives from a condition on syllable structure: All syllables are exactly two moras in weight.

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